

REMARKS

Applicant respectfully requests reconsideration of this application in view of the following remarks and the above amendments. This response is believed to fully address all issues raised in the Office Action mailed March 23, 2006. Furthermore, no new matter is believed to have been introduced hereby.

Claims 1, 9-14, and 17-22 have been amended. Claims 5, 15, and 23 have been cancelled without prejudice. Claims 25-27 have been added. Accordingly, claims 1-4, 6-14, and 16-27 remain pending.

Claim Objection

Claim 17 has been object to for informalities as detailed in paragraph 3 of page 2 in the outstanding Office Action. In response, claim 17 has been amended as detailed above. Accordingly, this objection is now believed to be moot.

Rejection of the Claims Under §§102 and 103

Claims 1-8 stand rejected under 35 USC §102(b) as being anticipated by Cristal, et al., "Large Virtual ROB's by Processor Checkpointing", hereinafter referred to as "Cristal". Further, claims 9-24 stand rejected under 35 USC §103(a) as being unpatentable over Cristal in view of Moshovos, "Checkpointing Alternatives for High

Performance, Power-Aware Processors", hereinafter referred to as "Moshovos." All issues raised by these rejections are believed to be fully addressed below.

Claims 1-4, 6-8, and 25

Without limiting the scope of the invention, only in an effort to impart precision to the claims (e.g., by more particularly pointing out the invention, rather than to avoid prior art), and merely to expedite the prosecution of the present application, claim 1 has been amended to in part recite that the physical register is released "based on a value of said at least one counter and after retiring a corresponding checkpoint."

It is respectfully submitted that Cristal fails to teach or disclose the claimed combination of features such as set forth in claim 1. Generally, Cristal appears to be concerned with using check-pointing to provide large virtual ROB's, see, e.g., Cristal title and abstract among other portions. This is very different than the claimed combination of features such as set forth in the amended claim 1 which, in part, determines when to release a physical register.

Additionally, the outstanding Office Action equates Cristal's RCV (release counter vector) to the claimed counter. It is respectfully submitted that the only overlap seems to be the word "counter" and Cristal's RCV is very different than the claimed counter. For example, Cristal appears to modify its RCV (release counter vector) with reference to ROB entries and checkpoints. Namely, the last paragraph of page 4 in Cristal

goes on to page 5 and finishes by stating that when “there is no active checkpoint, all entries are 0,” presumably referring to the entries of RCV. Thus, the value stored in Cristal’s RCV is directly related to the existence of Cristal checkpoints, whereas the claimed counter may be updated differently. For example, claim 1 as amended, in part, indicates that the physical register may be released based on the value of the counter. Hence, the Cristal RCV is very different from the counter of claim 1. According, it is respectfully submitted that claim 1 is in condition for allowance.

Additionally, claims 2-4, 6-8, and 25 depend from claim 1, and should be allowable for at least similar reasons, as well as additional or alternative elements that are recited therein but not shown in the cited prior art.

Claims 9-14, 16-22, 24, and 26-27

Without limiting the scope of the invention, only in an effort to impart precision to the claims (e.g., by more particularly pointing out the invention, rather than to avoid prior art), and merely to expedite the prosecution of the present application, independent claims 9 and 17 have been amended to in part recite that the branch predictor may release physical register is released the physical register “based on a value of said at least one counter.”

As discussed with reference to claim 1, it is respectfully submitted that Cristal fails to teach or disclose the claimed combination of features such as set forth in claims 9

and/or 17. Further, Moshovos fails to address the shortcomings of Cristal. Hence, Cristal and Moshovos, alone or in combination, fail to teach, disclose, or suggest the claimed combination of features such as set forth by claims 9 and/or 17. According, it is respectfully submitted that claims 9 and 17 are in condition for allowance.

Additionally, claims 10-14, 16, 18-22, 24, and 26-27 which depend from claims 9 and 17, and should be allowable for at least similar reasons, as well as additional or alternative elements that are recited therein but not shown in the cited prior art.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 720.840.6740 to facilitate prosecution of this application.

Respectfully submitted,

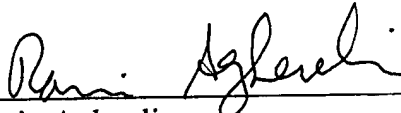
HAITHAM H. AKKARY ET AL.

By their Representatives,

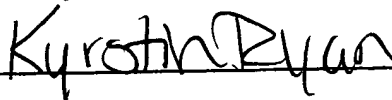
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Date July 24, 2006

By


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